

**SYSTEM AND METHOD FOR DYNAMICALLY GENERATING WEB  
DOCUMENT CONTENT USING A RULES-BASED ENGINE AND  
IMPLICIT TEMPLATE HIERARCHY**

**Abstract**

5. A system and method for dynamically generating Web content using a parse tree is described. A template describing a dynamically generated Web page is built. The template includes a script written in a tag-delimited page description language. One or more markers included within the template each indicate a relative location within the Web page for dynamic content insertion. The  
10 hierarchical nature of the page description language is used to infer a set of display regions, which are referenced by a parse tree. The parse tree includes a plurality of nodes structured into levels. Each node corresponds to structural tags specified within the script. Each successive level represents a further nesting of the structural tags within the script. A controller program invokes a document  
15 engine and specifies a particular template. Each marker may be substituted with dynamic content zero, one or several times each. The document engine accepts substitution requests from the controlling program and implements specific inclusion rules that ensure well-formed output documents. The dynamic content is inserted into the display region for the substituted marker. Each node located in  
20 a level of the parse tree previous to the node corresponding to the substituted marker is processed. The output structure is scanned and the document is rendered with the dynamic content included therein.